8. Nested Palindromes

Program Name: Palindromes.java Input File: palindromes.dat

A palindrome is a sequence of letters of the English alphabet that read the same going left to right or going right to left. In determining a palindrome, ignore case, digits, punctuation marks and spaces. The string "Able was I ere I saw Elba" is a palindrome. For this problem, we will consider strings of a single letter, like "Z", to be a palindrome.

Given a string, you will determine the length of the longest substring that is a palindrome. For example, the string "Mississippi" is not a palindrome. But the substrings that are palindromes are: I, P, M, S, PP, SS, IPPI, ISSI, ISSISSI. The length of the longest substring that is a palindrome is 7.

Input

The first line in the input file will consist of a single integer *n*, indicating the number of strings to follow.

Following this will be *n* lines of strings, each between 1 and 128 characters, inclusive. The strings will be a mix of uppercase and lowercase letters, digits, punctuation marks, and spaces.

Output

For each string, you will print on its own line the length of the longest substring that is a palindrome, ignoring case, digits, punctuation marks, and spaces.

Constraints

```
1 <= n <= 100
```

Example Input File

```
3
Madam, I'm Adam.
1234.4321
Mississippi Burning
```

Example Output to Screen

```
11
0
7
```